

ABSTRACT

A deposition method for filling recesses in a substrate is described. In the method, the substrate is exposed to an energized deposition gas comprising first and second components, to deposit a first layer of a material in the recess, and thereafter, the ratio of the first component to the second component is reduced, to deposit a second layer of the material over the first layer in the recess. The deposition method may be used to fill recesses in a substrate and smoothen out reentrant cavities in a silicon nitride liner, in the fabrication of polysilicon gates in a substrate.

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